This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF THE CLAIMS:

1. (Canceled)

2. (Previously Presented) The method for supporting multifield classification according to Claim 49, wherein the rule further comprises a field for specifying an action to be applied to the received fragment, the method further comprising a step of:

applying the action to the received fragment when the key matches the rule for the received fragment.

3. (Previously Presented) The method for supporting multifield classification according to Claim 49, further comprising the steps of:

receiving a packet at the forwarding platform; and

testing the received packet for determining whether the packet represents a fragment; and

performing the multifield classification of the received packet by matching a key derived from one or more fields of the received packet to a rule, the rule comprising a plurality of fields including at least one field for specifying whether the received packet's fragmentation characteristics are to be applied when performing the multifield classification.

4. – 5. (Canceled)

6. (Previously Presented) The method for supporting multifield classification according to Claim 49, wherein the preprocessing determines to forward the received fragment to a slow-speed forwarding platform.

7. (Previously Presented) The method for supporting multifield classification according to Claim 49, wherein the preprocessing determines to discard the received fragment.

8. (Previously Presented) The method for supporting multifield classification according to Claim 49, wherein the one or more flags are exclusive of one another.

9. (Previously Presented) The method for supporting multifield classification according to Claim 49, wherein the one or more fields that comprise the key derived from the received fragment include fields from headers representing one or more transmission protocols.

10. (Original) The method for supporting multifield classification according to Claim 9, wherein the one or more transmission protocols include: Internet Protocol (IP); User Datagram Protocol (UDP); Internet Control Message Protocol (ICMP); and Internet Group Management Protocol (IGMP).

11. (Original) The method for supporting multifield classification according to Claim 9, wherein the one or more fields include: source address (SA), destination address (DA), protocol, fragmented flag (FRAG) and not subsequent flag (NO SUBS) from a header of an IP transmission protocol; and a source port (SP) and a destination port (DP) from a header of a TCP transmission protocol.

12. (Previously Presented) The method for supporting multifield classification according to Claim 49, wherein a field in each rule comprises one or more values to be matched against the one or more fields of the derived key for the received fragment.

13. (Original) The method for supporting multifield classification according to Claim 12, wherein the one or more values represent an upper and a lower limit for a field in each rule.

14. (Previously Presented) The method for supporting multifield classification according to Claim 49, wherein the one or more values represent a mask and a value.

15. (Previously Presented) The method for supporting multifield classification according to Claim 49, wherein the plurality of rules are stored in the forwarding platform.

16. (Previously Presented) The method for supporting multifield classification according to Claim 49, wherein the plurality of rules are stored in a rules database.

17. (Currently Amended) A wire-speed forwarding platform for supporting multifield classification of a packet fragmented into a plurality of fragments, the platform comprising:

media interface for receiving a fragment of the fragmented packet at the forwarding platform;

a network processor having means for preprocessing the received fragment by querying a data structure in the forwarding platform, the data structure comprising one or more flags for determining whether the received fragment is to be classified in the forwarding platform, one queried flag indicating presence of any pre-defined transfer control protocol (TCP) rules to apply, and performing multifield classification of the received fragment in the forwarding platform if said one queried flag indicates no TCP rules to apply; or, either redirecting or discarding the received fragment from the forwarding platform if it is determined that the received fragment is not to be classified at the forwarding platform; and

said network processor for deriving a key from one or more fields of the received fragment; and performing multifield classification of the received fragment by matching the key to a rule out of a plurality of rules, the rule comprising a plurality of fields including at least ~~one~~ a first field comprising a first fragmented flag (FRAG) for specifying if this rule should match fragmented frames, non-fragmented frames, or both; and a second field comprising a not subsequent fragment flag (NO SUBS) in the rule key specifying whether this rule should match only non-fragmented frames including a first fragment of a fragmented frame, or is to be matched only to subsequent fragments of a fragmented frame, whereby said first and second fields ~~for specifying~~ specify whether the received fragment's fragmentation characteristics are to be applied when performing the multifield classification.

18. (Original) The wire-speed forwarding platform according to Claim 17, wherein the rule further comprises a field for specifying an action to be applied to the received fragment, the network processor further applying the action to the received fragment when the key matches the rule for the received fragment.

19. (Original) The wire-speed forwarding platform according to Claim 17, wherein the media interface further receives a packet at the forwarding platform, and the network processor testes the received packet for determining whether the packet represents a fragment and performs the multifield classification of the received packet by matching a key derived from one or more fields of the received packet to a rule, the rule comprising a plurality of fields including at least one field for specifying whether the received packet's fragmentation characteristics are to be applied when performing the multifield classification.

20. – 21. (Canceled)

22. (Previously Presented) The wire-speed forwarding platform according to Claim 17, wherein the preprocessing by the network processor determines to forward the received fragment to a slow-speed forwarding platform.

23. (Previously Presented) The wire-speed forwarding platform according to Claim 17, wherein the preprocessing by the network processor determines to discard the received fragment.

24. (Previously Presented) The wire-speed forwarding platform according to Claim 17, wherein the one or more flags are exclusive of one another.

25. (Previously Presented) The wire-speed forwarding platform according to Claim 17, wherein the one or more fields that comprise the key derived from the received fragment include fields from headers representing one or more transmission protocols.

26. (Original) The wire-speed forwarding platform according to Claim 25, wherein the one or more transmission protocols include: Internet Protocol (IP); User Datagram Protocol (UDP); Internet Control Message Protocol (ICMP); and Internet Group Management Protocol (IGMP).

27. (Original) The wire-speed forwarding platform according to Claim 25, wherein the one or more fields include: source address (SA), destination address (DA), protocol, fragmented flag (FRAG) and not subsequent flag (NO SUBS) from a header of an IP transmission protocol; and a source port (SP) and a destination port (DP) from a header of a TCP transmission protocol.

28. (Original) The wire-speed forwarding platform according to Claim 17, wherein a field in each rule comprises one or more values to be matched against the one or more fields of the derived key for the received fragment.

29. (Original) The wire-speed forwarding platform according to Claim 28, wherein the one or more values represent an upper and a lower limit for a field in each rule.

30. (Original) The wire-speed forwarding platform according to Claim 17, wherein the one or more values represent a mask and a value.

31. (Original) The wire-speed forwarding platform according to Claim 17, wherein the plurality of rules are stored in the forwarding platform.

32. (Original) The wire-speed forwarding platform according to Claim 17, wherein the forwarding platform further comprises control memory associated with the network processor for storing a rules database comprising the plurality of rules.

33. (Currently Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform the method steps for supporting multifield classification of a packet fragmented into a plurality of fragments in a wire-speed forwarding platform, the method comprising:

~~(a)~~ receiving a fragment of the fragmented packet at the forwarding platform and deriving a key from one or more fields of the received fragment;

~~(b)~~ preprocessing the received fragment by querying a data structure that comprises one or more flags for determining whether the received fragment is to be classified in the forwarding platform, one queried flag indicating presence of any pre-defined transfer control protocol (TCP) rules to apply;

performing multifield classification of the received fragment in the forwarding platform if said one queried flag indicates no TCP rules to apply; and,

~~(c)~~ redirecting said received fragment to a further processor for processing said fragment or discarding the received fragment from the forwarding platform if it is determined that the received fragment is not to be classified at the forwarding platform; and

~~(d)~~ performing multifield classification of the received fragment by matching the key to a rule out of a plurality of rules, the rule comprising a plurality of fields including at least ~~one~~ a first field comprising a first fragmented flag (FRAG) for specifying if this rule should match fragmented frames, non-fragmented frames, or both; and a second field comprising a not subsequent fragment flag (NO SUBS) in the rule key specifying whether this rule should match only non-fragmented frames including a first fragment of a fragmented frame, or is to be matched only to subsequent fragments of a fragmented frame, whereby said first and second fields ~~for specifying~~ specify whether the received fragment's fragmentation characteristics are to be applied when performing the multifield classification.

34. (Previously Presented) The program storage device according to Claim 33, wherein the rule further comprises a field for specifying an action to be applied to the received fragment, the method further comprising a step of:

applying the action to the received fragment when the key matches the rule for the received fragment.

35. (Previously Presented) The program storage device according to Claim 33, further comprising the steps of:

receiving a packet at the forwarding platform; and

testing the received packet for determining whether the packet represents a fragment; and

performing the multifield classification of the received packet by matching a key derived from one or more fields of the received packet to a rule, the rule comprising a plurality of fields including at least one field for specifying whether the received packet's fragmentation characteristics are to be applied when performing the multifield classification.

36. – 37. (Canceled)

38. (Previously Presented) The program storage device according to Claim 33, wherein the preprocessing determines to forward the received fragment to a slow-speed forwarding platform.

39. (Previously Presented) The program storage device according to Claim 33, wherein the preprocessing determines to discard the received fragment.

40. (Previously Presented) The program storage device according to Claim 33, wherein the one or more flags are exclusive of one another.

41. (Previously Presented) The program storage device according to Claim 33, wherein the one or more fields that comprise the key derived from the received fragment include fields from headers representing one or more transmission protocols.

42. (Previously Presented) The program storage device according to Claim 41, wherein the one or more transmission protocols include: Internet Protocol (IP); User Datagram Protocol (UDP); Internet Control Message Protocol (ICMP); and Internet Group Management Protocol (IGMP).

43. (Previously Presented) The program storage device according to Claim 41, wherein the one or more fields include: source address (SA), destination address (DA), protocol, fragmented flag (FRAG) and not subsequent flag (NO SUBS) from a header of an IP transmission protocol; and a source port (SP) and a destination port (DP) from a header of a TCP transmission protocol.

44. (Previously Presented) The program storage device according to Claim 33, wherein a field in each rule comprises one or more values to be matched against the one or more fields of the derived key for the received fragment.

45. (Previously Presented) The program storage device according to Claim 44, wherein the one or more values represent an upper and a lower limit for a field in each rule.

46. (Previously Presented) The program storage device according to Claim 33, wherein the one or more values represent a mask and a value.

47. (Previously Presented) The program storage device according to Claim 33, wherein the plurality of rules are stored in the forwarding platform.

48. (Previously Presented) The program storage device according to Claim 33, wherein the plurality of rules are stored in a rules database.

49. (Currently Amended) A method for supporting multifield classification of a packet fragmented into a plurality of fragments in a wire-speed forwarding platform, the method comprising:

~~(a)~~ receiving a fragment of the fragmented packet at the forwarding platform and deriving a key from one or more fields of the received fragment;

~~(b)~~ preprocessing the received fragment by querying a data structure that comprises one or more flags for determining whether the received fragment is to be classified in the forwarding platform, one queried flag indicating presence of any pre-defined transfer control protocol (TCP) rules to apply;

performing multifield classification of the received fragment in the forwarding platform if said one queried flag indicates no TCP rules to apply; and,

~~(c)~~ redirecting said received fragment to a further processor for processing said fragment or discarding the received fragment from the forwarding platform if it is determined that the received fragment is not to be classified at the forwarding platform; and

~~(d)~~ performing multifield classification of the received fragment by matching the key to a rule out of a plurality of rules, the rule comprising a plurality of fields including at least ~~one~~ a first field comprising a first fragmented flag (FRAG) for specifying if this rule should match fragmented frames, non-fragmented frames, or both; and a second field comprising a not subsequent fragment flag (NO SUBS) in the rule key specifying whether this rule should match only non-fragmented frames including a first fragment of a fragmented frame, or is to be matched only to subsequent fragments of a fragmented frame, whereby said first and second fields ~~for specifying~~ specify whether the received fragment's fragmentation characteristics are to be applied when performing the multifield classification.

50. (Canceled)